

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for ~~producing a moment on a~~ integrating steering and motion control in a vessel comprising the steps of:

mounting first and second rudder bodies to a vessel, wherein said first rudder body is located on a first side of a centerline of said vessel and said second rudder body is located on a second side, opposite said first side, of said centerline and said centerline is parallel with a keel of said vessel;

mounting at least one first rudder member to said first rudder body and at least one second rudder member to said second rudder body; and,

rotating said first and second rudder bodies around respective first axis and said at least one first and second rudder members around respective second axis using at least one rotating means, wherein said rotation of said first and second rudder bodies and said at least one first and second rudder members steers said vessel and controls motion of said vessel.

~~disposing a rotating means below a waterline for said vessel; and,~~

~~rotating a rudder member, using said rotating means, around a first and a second axis to produce said moment.~~

2. (currently amended) The method recited in Claim 1 wherein said respective first axis is substantially parallel to ~~[[a]] said keel of said vessel.~~

3. (currently amended) The method recited in Claim 1 wherein said respective second axis is substantially perpendicular to said respective first axis.

4. (currently amended) A rudder ~~An apparatus for steering a vessel~~ comprising:
a rudder body;

at least one rudder member mounted to said first rudder body; and,
at least one rotating means arranged to rotate said rudder body around a first axis and said
at least one rudder member around a second axis, wherein said rudder body and said at least one
rudder member are arranged to rotate independently of each other.

~~a rudder member; and,~~

~~a rotating means connected to said rudder member and disposed below a waterline for~~
~~said vessel.~~

5. (cancelled) ~~The apparatus recited in Claim 4, wherein said first axis is~~
~~substantially parallel to a keel of said vessel.~~

6. (currently amended) The rudder apparatus recited in Claim 4, wherein said second axis
is substantially perpendicular to said first axis.

7. (currently amended) The rudder apparatus recited in Claim 4 ~~further comprising~~
wherein said at least one rotating means further comprises a linear actuator ~~operatively arranged~~
~~to rotate said member around one of said first axis and said second axis.~~

8. (currently amended) The rudder apparatus recited in Claim 4 ~~further comprising~~
wherein said at least one rotating means further comprises a rotary actuator ~~operatively arranged~~
~~to rotate said member around one of said first axis and said second axis.~~

9. (currently amended) The rudder apparatus recited in Claim 4 ~~further comprising~~
wherein said at least one rotating means further comprises an electrical motor ~~operatively~~
~~arranged to rotate said member around one of said first axis and said second axis.~~

10. (currently amended) The rudder apparatus recited in Claim 4 ~~further comprising wherein said at least one rotating means further comprises a stepper motor operatively arranged to rotate said member around one of said first axis and said second axis.~~

11. (currently amended) ~~A vessel~~ An apparatus for steering and controlling motion in a vessel comprising:

a first rudder body and at least one first rudder member mounted to said first rudder body;

a second rudder body and at least one second rudder member mounted to said second rudder body;

at least one rotating means arranged to rotate said first and second rudder bodies around respective first axis and said at least one first and second rudder members around respective second axis; and,

wherein said first and second rudder bodies are arranged to rotate independently of each other and said rotation of said first and second rudder bodies and said at least one first and second rudder members steers said vessel and controls motion of said vessel.

~~a hull having a keel;~~

~~a rudder member rotatably fixed to said hull below a waterline for said vessel, said member operatively arranged to be rotated around a first and a second axis.~~

12. (currently amended) The apparatus ~~vessel~~ recited in Claim 11, wherein said vessel further comprises a first keel and said respective first axis is substantially parallel to said first keel of said vessel.

13. (currently amended) The apparatus ~~vessel~~ recited in Claim 11, wherein said respective second axis is substantially perpendicular to said respective first axis.

14. (currently amended) The apparatus vessel recited in Claim 11 ~~further comprising wherein said at least one rotating means further comprises a linear actuator operatively arranged to rotate said member around one of said first axis and said second axis.~~

15. (currently amended) The apparatus vessel recited in Claim 11 ~~further comprising wherein said at least one rotating means further comprises a rotary actuator operatively arranged to rotate said member around one of said first axis and said second axis.~~

16. (currently amended) The apparatus vessel recited in Claim 11 ~~further comprising wherein said at least one rotating means further comprises an electrical motor operatively arranged to rotate said member around one of said first axis and said second axis.~~

17. (currently amended) The apparatus vessel recited in Claim 11 ~~further comprising wherein said at least one rotating means further comprises a stepper motor operatively arranged to rotate said member around one of said first axis and said second axis.~~

18. (currently amended) A vessel comprising:

a hull;

first and second rudder bodies mounted to said hull, wherein said first rudder body is located on a first side of a centerline of said vessel and said second rudder body is located on a second side, opposite said first side, of said centerline and said centerline is parallel with a keel of said vessel;

at least one first rudder member mounted to said first rudder body and at least one second rudder member mounted to said second rudder body;

at least one rotating means arranged to rotate said first and second rudder bodies around respective first axis and said at least one first and second rudder member around respective second axis; and,

wherein said rotation of said first and second rudder bodies and said at least one first and second rudder members steers said vessel and controls motion of said vessel.

~~a rudder member rotatably fixed, below a waterline for said vessel, to an appendage fixed to said hull, said member operatively arranged to be rotated around a first and a second axis.~~

19. (currently amended) The vessel recited in Claim [[18]] 44 wherein said appendage is a crossfoil.

20. (new) The method recited in Claim 1 wherein controlling motion of said vessel further comprises controlling roll and pitch motion of said vessel.

21. (new) The method recited in Claim 1 wherein said vessel further comprises an automatic control system; and,
wherein rotating said first and second rudder bodies and said at least one first and second rudder members are responsive to said automatic control system.

22. (new) The method recited in Claim 1 further comprising:
rotating said first and second rudder bodies independently of each another;
rotating said at least one first rudder member and said first rudder body independently of each other;
rotating said at least one second rudder member and said second rudder body independently of each other; and,
rotating said at least one first and second rudder members independently of each other.

23. (new) The method recited in Claim 22 further comprising:
rotating said first and second rudder bodies in opposite directions.

24. (new) The method recited in Claim 1 wherein said at least one rotating means further comprises a linear actuator.

25. (new) The method recited in Claim 1 wherein said at least one rotating means further comprises a rotary actuator.

26. (new) The method recited in Claim 1 wherein said at least one rotating means further comprises an electrical motor.

27. (new) The method recited in Claim 1 wherein said at least one rotating means further comprises a stepper motor.

28. (new) The rudder recited in Claim 4 wherein said at least one rotating means further comprises a first rotating means arranged to rotate said rudder body and a second rotating means arranged to rotate said at least one rudder member.

29. (new) The apparatus recited in Claim 11 wherein said vessel comprises a second keel and a centerline essentially parallel with said second keel; and, wherein said first rudder body is disposed on a first side of said centerline and said second rudder body is disposed on a second side, opposite said first side, of said centerline.

30. (new) The apparatus recited in Claim 11 wherein said first and second rudder bodies and said at least one first and second rudder members are arranged to be rotated to control roll and pitch motion of said vessel.

31. (new) The apparatus recited in Claim 11 wherein said first rudder body and said at least one first rudder member are arranged to be rotated independently of each other, said second rudder body and said at least one second rudder member are arranged to be rotated

independently of each other, and said at least one first and second rudder members are arranged to be rotated independently of each other.

32. (new) The apparatus recited in Claim 31 wherein said first and second rudder bodies are arranged to rotate in opposite directions.

33. (new) The apparatus recited in Claim 11 wherein said vessel further comprises an automatic control system; and,
wherein said at least one rotating means is responsive to said automatic control system.

34. (new) The vessel recited in Claim 18, wherein said vessel further comprises a keel and said respective first axis is substantially parallel to said keel.

35. (new) The vessel recited in Claim 18, wherein said respective second axis is substantially perpendicular to said respective first axis.

36. (new) The vessel recited in Claim 18 wherein said first and second rudder bodies and said at least one first and second rudder members are arranged to be rotated to control roll and pitch motion of said vessel.

37. (new) The vessel recited in Claim 18 wherein said first and second rudder bodies are arranged to be rotated independently of each other.

38. (new) The apparatus recited in Claim 37 wherein said first rudder body and said at least one first rudder member are arranged to be rotated independently of each other, said second rudder body and said at least one second rudder member are arranged to be rotated independently of each other, and said at least one first and second rudder members are arranged to be rotated independently of each other.

39. (new) The apparatus recited in Claim 37 wherein said first and second rudder bodies are arranged to rotate in opposite directions.

40. (new) The vessel recited in Claim 18, wherein said at least one rotating means further comprises a linear actuator.

41. (new) The vessel recited in Claim 18, wherein said at least one rotating means further comprises a rotary actuator.

42. (new) The vessel recited in Claim 18, wherein said at least one rotating means further comprises an electrical motor.

43. (new) The vessel recited in Claim 18, wherein said at least one rotating means further comprises a stepper motor.

44. (new) The vessel recited in Claim 18 further comprising first and second appendages fixed to said hull; and,
wherein said first rudder body is mounted to said first appendage and said second rudder body is mounted to said second appendage.

45. (new) The vessel recited in Claim 18 wherein said vessel further comprises an automatic control system; and,
wherein said at least one first and second rotating means are responsive to said automatic control system.